



## Bibliographic resources and research tools for Industrial Engineering

# *A presentation for PhD students*

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Workshop slides are available here:

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# Bibliographic research steps



- Identify your topic and keywords
- Choose the proper tools (catalogues, databases...)
- Collect and evaluate useful documents (articles, papers, technical reports...)
- Create your bibliography using the correct citation style and citing the source

# What are Bibliographic Databases?

- A **bibliographic database** is a database of bibliographic records, an organized digital collection of references to published literature, including journal and newspaper articles, conference proceedings, reports, government and legal publications, patents, books, etc. In contrast to library catalogue entries, a large proportion of the bibliographic records in bibliographic databases describe articles, conference papers, etc., rather than complete monographs, and they generally contain very rich subject descriptions in the form of keywords, subject classification terms, or abstracts.
- A **bibliographic database** may be general in scope or cover a specific academic discipline.



# Why use Bibliographic Databases?

- Bibliographic databases allow you to **use keywords** to search across thousands of different journal titles and conference proceedings at the same time for papers in a specific subject area.
- This **saves you a lot of time** as you do not have to search through individual publications.
- The papers have been through some form of "**quality control**" to ensure that the information is more reliable and valid than information you may find by searching the internet (better than Google search!).
- Bibliographic databases allow you to **create a structured search** by helping you to identify relevant keywords, to combine keywords together and to limit your search.
- Bibliographic databases give you the citation or reference details about the articles you have found so that you can **locate the full text**.
- Bibliographic databases usually **provide links to the abstract or summary** of the article so that you can evaluate the its relevance.
- If the University has an electronic subscription to the journal or conference proceedings, you will **have online access to the full text** of the paper.
- Bibliographic databases **are regularly updated** giving you access to the most current research.

# (Engineering) Bibliographic Databases

**Web of Science** (Thompson Reuters bibliographic and citation database of peer-reviewed literature)

**Scopus** (Elsevier bibliographic and citation database of peer-reviewed literature)

**Engineering Village** (Compendex is the most comprehensive interdisciplinary engineering database in the world)

**IEEE Xplore** (full-text electrical engineering, computer science, and electronics bibliographic database)

**Business Source Complete** (bibliographic database about management, economics, finance, business...)

**Reaxys** (Reaxys is a web-based search and retrieval system for chemical compounds, bibliographic data and chemical reactions)

# Web of Science



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**COVERAGE:** multidisciplinary

**TIME RANGE:** 1985-

**DOCUMENT TYPES:** articles, proceedings papers

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Example: TS=(nanotub\* AND carbon) NOT AU=Smalley RE #1 NOT #2 [more examples](#) | [view the tutorial](#)

Search

Restrict results by languages and document types:

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Afrikaans

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All document types

Article

Abstract of Published Item

Art Exhibit Review

Booleans: AND, OR, NOT, SAME, NEAR

Field Tags:

TS= Topic

TI= Title

AU= Author [\[Index\]](#)

AI= Author Identifiers

GP= Group Author [\[Index\]](#)

ED= Editor

SO= Publication Name [\[Index\]](#)

DO= DOI

PY= Year Published

CF= Conference

AD= Address

OG= Organization-Enhanced [\[Index\]](#)

OO= Organization

SG= Suborganization

SA= Street Address

CI= City

PS= Province/State

CU= Country

ZP= Zip/Postal Code

FG= Funding Agency

FT= Funding Text

SU= Research Area

WC= Web of Science Category

IS= ISSN/ISBN

UT= Accession Number

PMID= PubMed ID

TIMESPAN

All years

From 1985 to 2016

## Advanced search

Compare sources >

Documents Authors Affiliations Advanced

Search tips ?

Enter query string

ALL("heart attack") AND AUTHOR-NAME(smith)  
TITLE-ABS-KEY("somatic complaint wom?n") AND PUBYEAR AFT 1993  
SRCTITLE("field ornith") AND VOLUME(75) AND ISSUE(1) AND PAGES(53-66)

Outline query Add Author name / Affiliation

Search Q

### Operators

AND	+
OR	+
AND NOT	+
PRE/	+
W/	+

### Field codes ⓘ

ABS	+
AF-ID	+
AFFIL	+
AFFILCITY	+



**BIBLIOMETRICS** is a set of mathematical and statistical methods used to analyze and measure the quantity and quality of books, articles, and other forms of publications.

## **Bibliometrics**

- identifies the best journals of a specific discipline
- defines the prestige of a specific journal
- determines the impact of published research

## **Bibliometrics evaluates:**

- scientific journals
- single researchers
- research groups

**Bibliometric indicators** are very important for researchers and organizations, as these measurements are often used in funding decisions and promotions of researchers.

They are becoming increasingly important since published research results are read and then quoted by other researchers.

**quantity indicators:** measure the productivity of a particular researcher (**Impact Factor; SNIP, SCImago**)

**quality indicators:** measure the quality or performance of a researcher's output; corresponds to the so called “peer-review” : a review by colleague-scientists (***h-index***)

# Impact factor

The **impact factor (IF)** is a measure of the frequency with which the average article in a journal has been cited in a particular year. It is used to measure the importance or rank of a journal by calculating the times its articles are cited.

## How Impact Factor is Calculated?

The calculation is based on a two-year period and involves dividing the number of times articles were cited by the number of articles that are citable.

**The Impact Factor is used to compare different journals within a specific disciplinary field.**

The [Journal of Citation Report](#) indexes more than 11,000 science and social science journals.

It is important to note that Impact Factor is a journal metric and should not be used to assess individual researchers or institutions.

The ***h-index*** quantifies an individual's scientific research output. (by J.E. Hirsch)

The ***h-index*** evaluates an author impact inside a specific scientific community on the basis of the number of his/her publications and citations obtained.

The *h-index* is one of the most important function in [Scopus](#)

[SCImago](#) is a database that can be accessed for free online, which allows you to obtain statistics on the citations of articles published in peer-reviewed journals. It provides statistics and compares the number of published articles and citations in each country.

**Journal ranking**  
**Country rankings**

# Engineering Village



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**SEARCH FOR**

AND

in

All fields

AND

in

All fields

AND

in

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AND ▾ <input type="text"/>	Select a Field (option... ▾)	
AND ▾ <input type="text"/>	Select a Field (option... ▾)	

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### Search Modes and Expanders

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- ☐ Find any of my search terms
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☐

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#### Apply equivalent subjects

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#### Full Text

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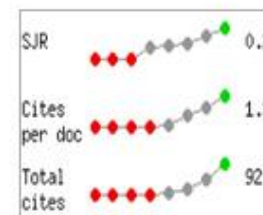
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- Reviewers evaluate the manuscript and may ask the author to apply amendments.
- In the end, if the manuscript is accepted it is published in a journal as a **peer-reviewed** article.

# Intellectual property in scientific communication

- **IP rights (Industrial Property):** patents, industrial design rights, trademarks, plant variety rights, trade dress, and in some jurisdictions trade secrets.
- **Copyright:** gives the creator of an original work exclusive rights to it. Usually, for a limited time.  
Economic rights allow the rights owner to derive financial reward from the use of his works by others  
Moral rights allow the author to take certain actions to preserve the personal link between himself and the work

Who retains these rights:

- authors
- publishers (when author transfers them to a third party)

**Copyright applies to theses and dissertations, as well.**

# Contracts with publishers

“Scholarly journals publishers have traditionally required authors **to sign over all of the rights** when their article is ready for publication”.

When a paper is accepted for publication, usually the author signs over copyright to the publisher of the journal in which his/her article appears (moral rights, being personal to the author, can never be transferred).

Authors need to be aware of current intellectual property and copyright laws if they want reuse their works after publication. Some publishers allow free access to articles in open archives, others allow access only under certain conditions, and still others don't allow free access at all.

Check information about **publishers' open access policies** on [Sherpa-Romeo](#)

- OA refers to the **free and open availability of scholarly content** in the Internet, OA materials are available via:
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  - ✓ Scholarly journals – (Gold road)
- OA can apply to all forms of published research output, including peer-reviewed academic journal articles, conference papers, theses, book chapters, and monographs.
- Anyone who has a computer and an internet connection can download and use scholarly information.



[http://bibliotecadigitale.cab.unipd.it/en/publishing\\_EN/OA](http://bibliotecadigitale.cab.unipd.it/en/publishing_EN/OA)

# Open access (OA)



- **Green road = OA self-archiving.** Authors deposit articles in an institutional repository (IR).
- **Gold road = Traditional publishers** who publish both traditionally subscription-based journals and open access journals.
- **Open access publishers** (some are subsidized, some require payment from authors' or authors' institutions/employers)

<http://www.livingreviews.org/open-access.html>



# Open access (OA)



- «*OA can benefit everyone, not just academics*»
- Researchers can read and build on the findings of others without restriction - **accelerated discovery**
- The outcomes of public funded scientific and medical research are available to taxpayers to see the results of their investment - **public enrichment**
- Teachers and their students have access to the latest research findings throughout the world - **improved education**

<https://www.plos.org/open-access/>

# Open access journals



- There are full open access journals.
- Hybrid open access journals where only some of the content is open access.
- Delayed open access journals where the content is made open access after a delay (e.g. 12 or 24 months).

# Predatory publishers



Beall's List is a regularly-updated report by Jeffrey Beall, about what he named “predatory publications”.

Scholarly Open Access

Critical analysis of scholarly open-access publishing (Beall's List or Publishers)

<https://beallslist.weebly.com/>

Beyond Beall's List

Better understanding predatory publishers

Monica Berger and Jill Cirasella

<http://crln.acrl.org/index.php/crlnews/article/view/9277/10341>

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### Recent Additions

See all of this week's new additions.

\* [en] *EXPERIMENTAL INVESTIGATION ON THE VISCOSITY OF NANOFLUIDS IN THE LOW TEMPERATURE RANGE*. GUILHERME CUNHA MAIA NOBRE. Pontifical Catholic University of Rio de Janeiro.

 *Nutritional Regulation of Sulfonamide Antibiotic Biodegradation by Microbacterium sp. Strain C448*. Malcolm, Tonya. University of Western Ontario.

### About OATD.org

OATD.org aims to be the best possible resource for finding open access graduate theses and dissertations published around the world. Metadata (information about the theses) comes from over 1100 colleges, universities, and research institutions. OATD currently indexes 4,206,040 theses and dissertations.

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## Latest News

[SCOSS: facilitating funding for sustainable OA](#)

**Research funders**, such as Universities or grant agencies, may adopt **policies** requiring their funded researchers **to deposit their research output in open access repositories**.

# Mandates



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Registry of Open Access Repository Mandates and Policies

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The Registry of Open Access Repository Mandates and Policies (ROARMAP) is a searchable international registry charting the growth of open access mandates and policies adopted by universities, research institutions and research funders that require or request their researchers to provide open access to their peer-reviewed research article output by depositing it in an open access repository.

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<http://bibliotecadigitale.cab.unipd.it/en/open-archives>





# Digital repositories at Padova University

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The resources shelf (ITA)  
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Digital repositories  
About publishing

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## Digital repositories



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Padua@research è l'archivio istituzionale per il deposito dei lavori di ricerca dell'Università degli studi di Padova. L'archivio ospita documenti in formato elettronico derivati da docenti, ricercatori e collaboratori dell'Ateneo. Vengono depositate in Padua@research anche le tesi di dottorato.

Il deposito, la modifica e l'accesso ai documenti avvengono in maniera semplice e diretta.

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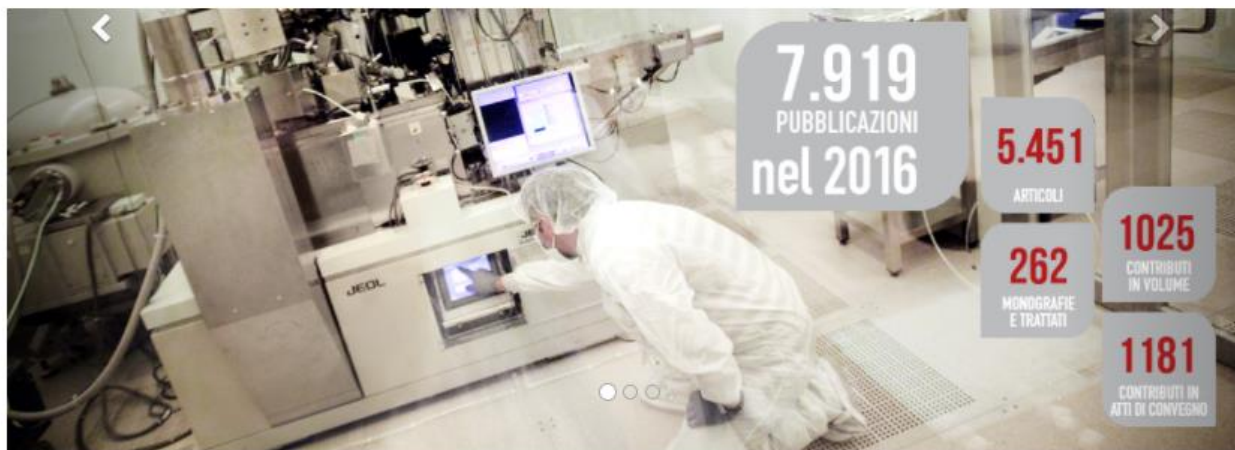
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Padua Research Archive, the institutional repository of the scientific production of the University of Padua, aims to collect, document, preserve and publish, also in open access, the scientific production of the University of Padua. Padua Research Archive is based on IRIS (Institutional Research Information System) developed by Cinca.

IRIS Università degli Studi di Padova / Homepage



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# Reference managers



You can:

- import, collect, organize and save references taken from bibliographic databases, books, web pages or other sources
- format bibliographies automatically in several referencing styles
- insert bibliographies and citations directly into a text
- share references with colleagues

# Reference managers

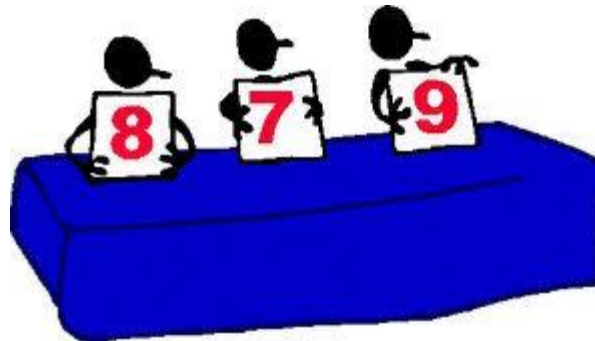
## A comparison chart between Mendeley, Zotero, Endnote basic

<http://bibliotecadigitale.cab.unipd.it/en/refworks>

Zotero	Endonote Basic	Mendeley
Web based	Web based	Web based
Free (up to 300 MB)	Free for Unipd users	Free (up to 2 GB)
It works offline		It works offline
downloading images and URL		
Data storage free up to 300 MB	Data storage free up to 2Gb	Data storage free up to 2Gb
Sharing bibliography	Sharing bibliography	Sharing bibliography
Import citation	Import citation	Import citation
Adding or modifying style citation	More common citation style	Adding or modifying style citation
Simplicity	Stability	Simplicity

# Evaluation questionnaire

[www.cab.unipd.it/corsi-sba-questionario](http://www.cab.unipd.it/corsi-sba-questionario)



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